

SDII
A545

no. 14



U. S. D. A. Forest Service
RESEARCH NOTE NO. ITF 14

INSTITUTE OF TROPICAL FORESTRY*
RIO PIEDRAS, PUERTO RICO

FOREST SERVICE - U.S DEPARTMENT OF AGRICULTURE

March 1972

EXTRACTION AND GERMINATION OF KADAM SEED

By

C. R. Venator and J. A. Zambrana

Summary

Ripe fruits are air dried, crushed, and shaken through a No. 35 U.S. Standard Sieve to separate seed from chaff. Alternatively, fruits are soaked in the open until rotted, ground by hand into a thick slurry, air dried, and passed through a series of sieves terminating with a No. 35. Seed purity has been 98% and germination of freshly extracted seed has been 90% or better.

Resumen

Para obtener la semilla se Tritura la fruta después de haberla secado al aire y utilizando un cedazo U.S. Standard No. 35, se separa la semilla de la broza. Otro método es poner la fruta en agua a la intemperie por unos cuantos días hasta que se pudra, se Tritura con las manos, se seca y luego se separa la semilla utilizando cedazos de diferentes tamaños hasta llegar al No. 35. Se ha logrado obtener semilla con un 98% de pureza cuya germinación sobrepasa el 90%, utilizando semilla completamente fresca o recién extraída.

*In cooperation with the University of Puerto Rico.

LIBRARY

JUN 14 1973

ROCKY MOUNTAIN STATION

Introduction

Methods for extracting seed of kadam, Anthocephalus chinensis (Lam.) A. Rich.^{1/} are described by Grijpma^{2/} and Pollard^{3/}. At the Institute of Tropical Forestry we use two simplified procedures based on the previously described methods. Our procedures are reported here. Choice of which to use depends on personal preference.

The articles by Grijpma and Pollard also report an after-ripening period of 2.5 to 6 months in cold storage is necessary for good germination. In Puerto Rico we have had excellent germination of freshly extracted seed.

Extraction Methods

Ripe fruits (deep yellow to orange color) are collected under the trees or from the branches, air dried under a rain shelter, and then crushed by hand or with a rolling pin. The macerate is poured onto a U.S. Standard Sieve No. 35 (0.5 mm openings) and shaken vigorously. The blackish-colored seeds pass through the sieve quite readily into the collection pan.

Alternatively, the ripe fruits are soaked in water for several days in the open (either shade or sun) until rotted. The fruits are then rubbed between the hands to form a paste-like slurry which is spread on a flat surface and air dried. The macerate is then rubbed through a series of progressively smaller sieves terminating with a No. 35.

Purity and Germination

Purity of the seed averages 98% as determined by weights before and after winnowing in an air-column seed cleaner. Laboratory germination of freshly extracted seed has been 90% or better within 6 to 15 days after sowing. These results are based on the germination of thousands of seeds and several extraction runs.

^{1/} Synonym, Anthocephalus cadamba (Roxb.) Miq.

^{2/} Grijpma, P. 1967. Anthocephalus cadamba, a versatile, fast growing industrial tree species for the tropics. *Turrialba* 17:321-329.

^{3/} Pollard, J.F. 1969. A note on the nursery treatment of two species in Sabah. *Malayan Forester* 32:269-271.